

BIODEGRADASI POLIETILENA MENGGUNAKAN BAKTERI DARI TPA (TEMPAT PEMBUANGAN AKHIR) GUNUNG TUGEL KABUPATEN BANYUMAS

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Abstract	<p>Plastic has high potency to become material that much threats human living in this earth, because made from chemical which cannot degraded by microbes in environment. The successful production and marketing of biodegradable plastics will help alleviate the problem of environmental pollution. One of biodegradable plastic that used in our live is polyethylene. This research reveals that local microbes capable to degrading of polyethylene. Biodegradation test was carried out by using bacteria in soil which was obtained from Gunung Tugel disposal center, Banyumas regency. Kind of polyethylene is LDPE (Low Density Polyethylene) which was obtained from Setiakawan Plastic Factory, Kalibogor, Purwokerto formed to thin film. Characterization of the polyethylene used weight loss percentage method, melting point determination and FTIR. Soil bacteria isolated from Gunung Tugel disposal center, Banyumas regency, obtained 5 single colonies, which coded GT. Bacteria isolate which have highest activity in degrading polyethylene was GT 3, with increasing the time of incubation. Weight loss percentage up to 2.33% in 1 month. Melting point of polyethylene after biodegradation was decreased that initially 210-220 Å,Å°C into 210-213 Å,Å°C. FTIR spectrophotometer result of polyethylene after biodegradation showed intensity for methylene and methyl cluster was decreased.</p>
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